Shea, Valois

From: Ex. 6 Personal Privacy (PP)
Sent: Sunday, April 23, 2017 9:52 AM
To: Shea, Valois
Subject: PowerTech/AZARGA

My name is Ex. 6 Personal Privacy (PP) and my wife and I live on a small ranch south of Pringle and have been there for 26 years. Thank you for this opportunity to comment on Deep Well injection and uranium mining. My comments here were given at an earlier public meeting opposing the mining. injection

I am not a scientist nor an engineer nor do I receive payment of any kind for being opposed to the permits in question.. I am not a for profit corporation. I have no loyalties or any responsibilities to show a profit to any stockholders. I am free to do the right thing.

When commissioned as an officer many years ago, I swore an oath to uphold and defend the Constitution. The Constitution and the Bill of Rights of course support a prime directive: Clarify the responsibilities of the government and the rights of the people. Not businesses nor corporations' rights but citizen's rights. Our governments' responsibility is to the health and welfare of those citizens. Every civil servant, every citizen's board, every governor is accountable to the citizens who have allowed them to serve and if they do not protect the health and welfare and the rights of the people then they have abrogated their prime directive.

My references for this talk are the Power Tech/AZARGA permit application available from the South Dakota DENR most of which I have read, as well as the website of the NRC and the state laws regarding water and mining. I hope to bring your attention to what I

believe are discrepancies and contradictions which should provide reasons for the denial of this permit application.

Despite P/T's repeated assertions that this operation would be safe, that is simply untrue. Nor is it true that radiation is actually good for you, nor that one can destroy radiation contamination by washing it off. PT spokespersons have been willing to freely state that scientific truths are nonsense apparently comfortable in saying anything that will support their cause regardless of it's falseness. This alone should force a denial of the permit. There are several issues that could interfere with the ability of P/T to actually perform this requirement not the least of which is that no ISL mining operation has ever remediated the land, waters and aquifers to baseline. Exemptions are asked for and usually given. This just provides the excuse to contaminate and not remediate. This obviously does not a safe operation make. If P/T actually cleans up and remediates the land and waters to a clean uncontaminated state, it will be the first operation to do so in the history of in situ mining. This is well known and incontrovertible.

First: 5.6.2.1 of the application states that the slope of the permit area is 2 to 6 degrees to the SW. Due to the location of Pass Creek and Beaver Creek, this slope will force any drainage from leaks and spills and land applications of contaminants plus precipitation to flow SW into these creeks and thus to the Cheyenne River and to Angostora, the Pine Ridge and the Missouri River. This is especially true during heavy downpours such as we experienced this summer which created a 4 foot wall of water that derailed dozens of RR cars and the damaging flooding in the Boulder area which released gallons and gallons of contaminants. These floods will happen again. When they do, there will be precious little to prevent damage to the mining area, not to mention a flooding of the contaminants on the ground. As indicated in 3.39 of the application, and I quote, " the hazard for wind and water erosion... varies from negligible to

extreme" "to extreme"! This obviously should be of "grave concern" to quote the Rapid CIty Council. And if the rainfall from our own downpours can cause a train derailment then it can cause other erosion as well. This indicates that the promises of safe containment should be considered questionable.

Second: PT will tell you that there is no communication between aquifers because of confining layers. However, in 3.4.1.4 it states that the Madison aquifer is 200 feet thick in the southern Hills up to 1000 feet regionally and could be connected to or communicate with the Minnelusa and the Deadwood aquifers which are the chosen repositories for the contaminated waste water, which will be injected under pressure. This communication could prove to be unsafe for obvious reasons. Additionally, in 3.4.1.7, P/T states that "no evidence of karsting has been observed". (erosion due to dissolution producing fissures and sinkholes) This is a below ground phenomenon and simply because something has not been observed at this time does not mean it will not occur later or that it is not there now. As the cave system in the Hills is known to be everywhere, it is only logical that there are fissures everywhere which will allow for "communication" between aquifers as stated above.

Third: Figures 3.4-17 and 3.4-20 show the open pit mines, the number of well holes and the down gradient and how the ore bodies on the east will flow directly into Pass Creek, and thence to Beaver Creek while the ore bodies on the west side will flow directly into Beaver Creek. In 34.5.3.9 P/Ts plans will account only for a 100 year flood. This plan does not take in account global warming, mega storms, floods, tornadoes, droughts etc. and plan to stop the flooding with a few well placed hay bales and ditches and berms. A 4 foot wall of water will not be controlled by these meagre efforts. In 5.4.2.3.2 PT simply states that the runoff will be managed with no indication of how they will actually do it beyond the attempts mentioned.

Fourth: In 3.6 P/T anticipates the potential for problems from winds and wind erosion with Fig 3.6-39 showing the wind directions and speeds in the mining and land application areas. The evapotranspiration will leave contaminated residue on the land to be blown away with the winds or washed away by the rains. In 3.11 " The landscape comprising the permit area is erosional in nature." This admits to the problem outright and taken at face value should indicate the inappropriateness of the area for the mining project. Additionally, we are told that radium will be the main contaminant and will simply sink to the bottom of the ponds (where it will sit up to 18 months with no covers before being removed or injected) but Table 3.4-10 shows the other dangerous byproducts of this type of mining. These include thorium, arsenic, cadmium, mercury, thallium, polonium and radon in addition to the uranium and radium. These dangerous by-products of ISL mining on the land and in the water cannot possibly be considered safe for wildlife, livestock or humans. In fact, P/T in 5.4.1.1.3, goes only so far as to say that the lead and thorium will be "treated as necessary" but fails to provide the details. In fact, how does one treat radon, or radioactive cadmium or arsenic??? These poisons will become concentrated due to the re-injection and recirculation of the water into and from the IK making the IK more contaminated rather than less. PT will tell you that the IK will get cleaner due to the bleed. I believe this is illogical nonsense.

Fifth: In 5.0 it states that "potential environmental impacts will be minimized". There are two problems with this statement: a) It admits that environmental impacts will occur and b) it accepts the fact that they have no intention or do not have the ability to actually remediate these impacts just minimize them. This is not in the public interest and indeed violates state law regarding non-contamination of public waters. Of interest is 6.3.4.2 where it states that P/T will provide "95% confidence that the ...units"... will..." meet the cleanup guidelines or action levels". Minimum? 95% confidence? 95% of

the cleanup guidelines is unacceptable and if that is the best they can do, then the permit needs to be denied. Indeed, P/T makes no offer to do anymore than what they decide is reasonable. Additionally, in 5.5, "Solid wastes such as pond sludge; soils contaminated by leaks; spills of loaded or spent IX resin; filter sand...parts; equipment...will be disposed of at an NRC... facility". This a very general statement which lacks specifics as to the method of gathering up all this radioactive contamination which will have drained into the soil in and outside of the permit area. The fact that they know about the leaks, (such as the dozens of leaks at Crowe Butte in Nebraska,) but cannot or will not prevent them must be cause for alarm. The public needs more assurance than this. 5.3.9.2 states only that erosion of disturbed areas will be minimized. There are three problems with this assurance. a) P/Ts admittance of the disturbed areas in the first place, b) they will not try to prevent any erosion outside of the disturbed areas only minimize the erosion inside the disturbed areas and c) they admit that they will not even attempt to repair the erosion to its original state. Public health is not served by this cavalier attitude towards runoff prevention. In 5.3.4.4 it admits that " all grades will provide for natural runoff" which as we have seen only further guarantees the flowing of contamination into the creeks and rivers. In 5.4.2.2, In reference to hazardous waste and "used oil"? " it is likely that this project will be classified as a conditionally exempt small quantity generator". CESQG This classification allows for up to 1000kg of hazardous waste a month or 12000 kg a year. What if it isn't so classified? Well, then, P/T simply assumes that they will obtain "the appropriate approvals or permits". This expectation of creating hazardous waste that needs yet another permit or approval due to its dangerous qualities should cast additional doubt as to the viability of this company to properly handle the responsibilities of this kind of operation. Another concern is in 5.5.1.2.3, where it states that excursions must be reported within 24 hours but the permit allows for a delay in correction of the excursion up to 30 days. 30

days!!! This is not a minimization of contamination. With the DENR no longer authorized to monitor and inspect the mining operation due to SB158, the danger of failure to correct and the allowance of the problem to continue is very real.

Sixth: 5.6.2.1 Potential soil impacts: Two to six % slopes will cause rain and wind erosion. Impacts to disturbed areas include: compaction, loss of productivity, loss of soil, salinity, soil contamination caused by clearing, excavation, leveling, stock piling, and redistribution of soil. "Due to the use of heavy machinery and high volume..... ..some soils have the potential of compaction." This can "lead to decreased infiltration, thereby increasing run off". This compaction "will be restored as possible following use." (Ten to twenty years later!!!)
The hazard for wind and water erosion vary between negligible and severe. Severe!!! P/T admits to the danger of compaction and erosion and then PT admits to build up on land of disposals of waste, salts, radionuclides, metals, metaloids, and the loss of soil fertility. This is not 95%clean or minimized or reasonably achievable or even a best effort. This is simply not proper and responsible work. Page 5-118
lists all the problems with spraying multiple contaminants on land, which I won't belabor as it has been covered by others. 5.6.5.1.3 PT accepts the potential of accidents which could release pollutants such as bulk chemical products, uranium loaded resin, dry yellow cake, solid by-product material. PT says it will simply remove the contamination. They do not say how unless you count their claim that it will wash off clean with water.They admit that the consequences of these spills range from minor exposures to "significant". And lest there be any doubt that this area will be radioactive and dangerous to human health this sign will be posted.:

5.7. 2.4 ANY AREA WITHIN THIS FACILITY MAY CONTAIN RADIOACTIVE MATERIAL.

Seventh: Another issue is the cost of reclamation. In their socioeconomic report, P/T allows for $9 million. The bond is only 1.5 million (which is less than $150 per acre or about one hour of dozer work) but it also acknowledges that the expected cost for reclamation could be as high as 75 million if I am not mistaken. And if WY is any guide, it could be as high as 150 million. The ability of P/T to afford even the 75 amount, depends on the amount of uranium removed and therefore the amount of yellow cake produced. The other side of the coin is the price for yellow cake to support this kind of expenditure. P/Ts figures rely on the price of $65. This of course is only a hopeful number as the current price is below $40. But even at $40, there will not be profit of over $200 million available for this kind of activity but rather, if my math is approximately correct, closer to $50 million. If the remediation is to cost upwards of $75 million, well...you can see that this just doesn't figure or as my rancher friends like to say, it doesn't pencil. If the company can't sell at $40 then what is to become of the remediation after the mining? if they can sell at $40 or below then what funds are going to be available to attempt the remediation in the first place? This is a very unhealthy set of circumstances.

Eighth: As we all know, and that includes the EPA, the NRC and P/T, the USGS has stated that there has never been an ISL mining operation that has returned the soil and water to a clean, before mining status. Not WY, not TX. If P/T wants to mine uranium in the Dewey-Burdock, then it has a debt to the people of the area and should guarantee in writing that they will clean up the soil and water to a clean uncontaminated state. That is what CO wanted. The Project Manager said at his meeting at the Fall River Conservation office recently that P/T would indeed guarantee completely that it would clean up the permit area 100% with no mention of minimum, no mention of 95%, no mention of putting forth a "best effort", but a verbal guarantee to absolutely clean up the permit site and the

aquifers. Let us have a contract to that effect. It is my understanding that P/T would not/could not provide that guarantee to Colorado nor could it find 5 ISL operations that had cleaned up the water and the land as proof that it could be done. That is why P/T left Colorado empty handed and came to a sparsely populated area of the Black Hills in the hopes of trying it here. With some success I have to admit due to the state legislature having failed the citizens of this state by weakened the mining and water requirements for ISL mining and removing DENR responsibility of oversight. Not surprisingly, the bill was written by a P/T lobbyist. RCJ 22nd

Ninth: One of the serious problems I see with this operation is the lack of mining experience of the people in charge. For example, the company has yet to mine uranium. The Project Manager has never been a project manager on any other ISL and in fact has done very little "engineering" of any kind for many years The executives have experience in the nuclear industry and in administration but not in managing and mining an ISL uranium mine. At least not according to the CVs. This is a very complicated and potentially dangerous and very expensive proposition. One of P/T spokespersons is a former Professor at the School of Mines. He has not mined any uranium at an ISL mine The CEO has not mined any uranium at an ISL mine. They have not developed yellow cake, they have never remediated an ISL area. What they have accomplished is to file a permit application. And that after many corrections from the NRC and the DENR. I have to believe that this has to be their first filing for an ISL mining permit. So...this will be a trial run for P/T personnel, a first time operation. I am sorry but I have no faith in a lack of experience. I need to see years of experience in the ISL industry with a record of clean remediation and contamination containment. Based on their inability to produce a clean permit application without DENR and NRC assistance and their lack of experience and their public admissions that there will be leaks and spills and runoff and contamination of the soils, there is no reason to

expect P/T to be able to keep the public safe from this contamination or remediate the operation to even a minimum standard. Indeed, their stock price would not be pennies a share if investors had any faith in this management and this operation. ARSD 74:29:07 clearly states that "The individual who develops the reclamation plan must be competent in the management and planning of the specific type or types of reclamation selected." With no prior experience in reclamation, P/T clearly fails this test.

Tenth: 6.3 The project manager told me that I could actually drink a glass of radioactive water with no ill affects, that if one were to be subjected to radiation poisoning that this could simply be cleansed by the normal body functions or washed off with no ill effects, that radioactive equipment and material could be cleansed and made neutral if you will, by a high pressure wash system. In my mind, this demonstrates a complete lack of knowledge about radioactivity and the dangers of radioactive contamination. P/T says it can decontaminate the soil yet previously stated that contaminated soil would be removed to a NRC approved site and that contaminated equipment will remain radioactive and either be taken to another site or if liquid, injected into existing aquifers. Contaminating aquifers is not minimizing that contamination. It is just putting it out of sight. We have heard about "permissible limits", 95% cleanliness, minimized contamination, and recently a guarantee to contain the contamination within the permit boundary. The NRC allows that the permittee needs only to remove the contamination to as low as reasonably achievable (or ALARA). But we are told that it will be 100% cleaned. As mentioned previously, the NRC knows it can't be done cleanly so it abrogates its prime directive and puts the health of the mining operation in front of the health and safety of the citizens. The ALARA is in direct contradiction to that directive. Any DENR approval of this operation is in direct contradiction of its purpose to protect the people. There seems to be no true agreement as to just exactly how far any remediation has to go to qualify for a

job well done and as we know, the contamination from an ISL mining operation is not cleanable. This vagueness should be, especially at this late stage, grounds for a denial.

There are several situations that require the Mining Board to deny a permit of this kind

(((They are 1-40-27:
(1) (a) If the permittee has intentionally misrepresented a fact
If the permittee has had any permit revoked (denied)under the environmental laws of any state. (Colorado comes to mind.)
(2)The applicant substantially duplicates an application within the past 5 years that has been denied, the denial having not been reversed by a court of competent jurisdiction)))
45-6B-32:
(6) The proposed mining operation and reclamation cannot be carried out in conformance with the requirements of 45-6B-35 (grading, disposal of refuse, removal and handling of topsoil, disturbance to hydrologic balance, slides-subsidence or damage protection-fencing, and reclamation)(-38 states will not pollute surface or ground water!!!)(-41 Disturbance to hydrologic balance. Any disturbance to the prevailing hydrologic balance of the affected land and of the surrounding area and to the quality and quantity of water in surface and groundwater systems both during and after the mining operation and during reclamation shall be minimized.)

45-6B-33:
Reclamation of the affected land pursuant to the requirements of this chapter is not physically or economically feasible.

According to today's RCJ, P/T lobbyist and Program Manager "speaking at a Rapid City Council committee meeting in August, conceded that if the project goes through, the company will need to

somehow fund it." "They will need a larger financier going forward", Hollenbeck said, adding that it could lead to a joint venture or selling more stock, or perhaps selling the company. "It may be a sell-out of the project," he said. "I don't know that." P/T hasn't the financing to even start the project even with over 50 million shares being sold. How can this board approve this permit when they have financing for neither the start nor the finish.

THIS HAS BEEN SHOWN AND THE PERMIT SHOULD BE DENIED.

(2) Substantial disposition of sediment in stream or lake beds ,landslides or water pollution cannot be feasibly prevented

THIS HAS BEEN ADMITTED AND APPLIES. THE PERMIT SHOULD BE DENIED

The proposed mining operation will result in the loss or reduction of long range productivity of an aquifer, public and domestic water wells, watershed lands, aquifer recharge areas, or significant agricultural areas

AS A RESULT OF THE BILLIONS OF GALLONS OF WATER USED AND CONTAMINATED, THIS IS HIGHLY PROBABLE AND THIS PERMIT SHOULD BE DENIED.

The Board finds that any probable adverse socioeconomic impacts of the proposed mining operation outweigh the probable beneficial impacts of the operation. Contamination would affect tourism, ranching, domestic water supplies, and the future economic health of the region.

EVEN AT $65, THIS IS NOT A VIABLE ECONOMIC UNDERTAKING. AT $40 IT IS A FINANCIAL IMPOSSIBILITY. THIS BOARD HAS A CLEAR AND LEGAL

RESPONSIBILITY TO STRONGLY OPPOSE AND DENY THIS OERMIT APPLICATION

refer to the Letter of opposition from the FR Conservation District as one example and the "grave concern" of the RC Council I also ask the Board to consider and recognize the hundreds of signatures of people who have signed their names in opposition to this permit. As you know, these signatures represent upwards of 10 to 20 times those who are opposed. Please deny this permit.

Thank for your attention.

If time allows, I would like to read this at the May meeting in Hot Springs and will provide a hard copy if requested.

Sincerely,

Ex. 6 Personal Privacy (PP)